

Date: Thu, 14 Apr 94 04:30:46 PDT  
From: Ham-Space Mailing List and Newsgroup <ham-space@ucsd.edu>  
Errors-To: Ham-Space-Errors@UCSD.Edu  
Reply-To: Ham-Space@UCSD.Edu  
Precedence: Bulk  
Subject: Ham-Space Digest V94 #91  
To: Ham-Space

Ham-Space Digest                      Thu, 14 Apr 94                      Volume 94 : Issue    91

Today's Topics:

                    ARLK014 Keplerian data  
                    STS-59 Orbital State Vectors Rev #66  
                    Working AO-21 with TH-78A

Send Replies or notes for publication to: <Ham-Space@UCSD.Edu>  
Send subscription requests to: <Ham-Space-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Space Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-space".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.  
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Date: Mon, 11 Apr 1994 07:20:12 -0600  
From: agate!howland.reston.ans.net!math.ohio-state.edu!cyber2.cyberstore.ca!  
nntp.cs.ubc.ca!alberta!ve6mgs!usenet@ames.arpa  
Subject: ARLK014 Keplerian data  
To: ham-space@ucsd.edu

SB KEP @ ARL \$ARLK014  
ARLK014 Keplerian data

ZCZC SK81  
QST de W1AW  
Keplerian Bulletin 14    ARLK014  
  
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Date: Wed, 13 Apr 1994 13:26:39 GMT  
From: hookup!news.kei.com!MathWorks.Com!europa.eng.gtefsd.com!library.ucla.edu!  
news.ucdavis.edu!csus.edu!netcom.com!astroman@ames.arpa  
Subject: STS-59 Orbital State Vectors Rev #66  
To: ham-space@ucsd.edu

Vector format = 117  
Satellite Name: STS-59  
Catalog Number: 23042 94020A  
Epoch Date/Time: 94103.50139128472  
04/13/1994 12:02:00.207 UTC  
EFG E: 14706552.30 ft  
F: 15678202.31 ft  
G: -2514039.25 ft  
Edot: -10753.0118 ft/s  
Fdot: 6686.1936 ft/s  
Gdot: -21190.4119 ft/s  
ndot/2 (drag): 0.00129986000 rev/day^2  
nddt/6: 0.00000E+00 rev/day^3  
Bstar: 5.84169E-05 1/Earth Radii  
Elset #: 14  
Rev @ Epoch: 66.52213473838

MSDOS/PC software is available for conversion of  
OSV to 2 Line Keplerian Elements via ftp to:  
oak.oakland.edu:/pub/msdos/hamradio/v2l9331.zip  
and the SIMTEL archives.

State Vectors courtesy Ken Ernandes N2WWD

SM

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Date: 13 Apr 94 10:47:38 GMT  
From: news-mail-gateway@ucsd.edu  
Subject: Working A0-21 with TH-78A  
To: ham-space@ucsd.edu

Hello everyone,

I am interested in working A0-21 using the 435.015 uplink frequency. However, I have a kenwood TH-78A and have not been able to enter that frequency, the closest I can get is 435.0125. This is because the freq. steps that can be selected on UHF are: 10, 12.5 20 or 25 kHz.

My questions are: can I work A0-21 on 435.0125?

How can I modify the TH-78A so it can transmit on 435.015?

Your answers to these questions and general comments about working A0-21 will be greatly appreciated.

Hope to hear you on A0-21 soon!

73 & DX de XE1RGL Guillermo

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Date: 13 Apr 94 14:20:59 GMT  
From: agate!howland.reston.ans.net!europa.eng.gtefsd.com!emory!wa4mei!ke4zv!  
gary@ucbvax.berkeley.edu  
To: ham-space@ucsd.edu

References <JAY.17.2DA57809@medicine.dmed.iupui.edu>,  
<1994Apr11.154030.25438@ke4zv.atl.ga.us>, <1994Apr12.133436.5905@arrl.org>  
Reply-To : gary@ke4zv.UUCP (Gary Coffman)  
Subject : Re: Building Sat antennas

In article <1994Apr12.133436.5905@arrl.org> zlau@arrl.org (Zack Lau (KH6CP))  
writes:

>Gary Coffman (gary@ke4zv.atl.ga.us) wrote:  
>: A nice simple antenna for S band can be constructed of all thread rod  
>: for the boom, fender washers for parasitic elements, and a bunch of jam  
>: nuts to hold everything in place. The crossed dipole driven elements can  
>: be made from a piece of printed circuit board (duroid) with the driven  
>: elements and their phasing and matching harnesses etched onto the board  
>  
>So how big does the boom have to be for it to work well on Oscar 13?  
>A 15 turn helix on a 20 inch boom seems to work just fine with a good  
>PHEMT preamplifier (0.33 dB system NF). On a 10 degree pass I heard  
>the beacon from ARRL HQ parking lot through the roof of W1AW quite well.  
>I read up in Kraus on the dimensions to use. The boom length includes  
>the rear mounting bracket. The receive converter is a little too  
>light to balance the antenna.

Nurad makes a commercial version of the antenna I described (for the  
1.9 GHz band). They claim 19 dbc for it. It's about 4 feet long and 2  
inches in diameter including the fiberglass housing and transmitter  
mount. We use a tripod bag to hold it and a tripod. The stewardess  
will stow it with carry on garment bags. We carry the transmitters  
and receivers in a small Haliburton case that will stow in the overhead  
compartments. We buy a ticket for our camcorders so they can ride up  
front too. It doesn't pay to allow the baggage handlers to get their  
hands on delicate electronics. The antenna is very rugged, however,  
and can take a lot of abuse. The ones on our vehicles have survived  
impacts with tree limbs at highway speed.

I don't know the gain of your helix, but I expect it's considerably  
less than 19 dbc, so you should be able to use the rod and washer  
antenna design for Oscar 13.

Gary  
--

Gary Coffman KE4ZV		You make it,		gatech!wa4mei!ke4zv!gary
Destructive Testing Systems		we break it.		uunet!rsiatl!ke4zv!gary
534 Shannon Way		Guaranteed!		emory!kd4nc!ke4zv!gary
Lawrenceville, GA 30244				

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Date: (null)  
From: (null)  
SB KEP ARL ARLK014  
ARLK014 Keplerian data

Thanks to NASA, AMSAT and N3FKV for the following Keplerian data.

Decode 2-line elsets with the following key:

1 AAAAAU 00 0 0 BBBB.BBBBBBBB .CCCCCCC 00000-0 00000-0 0 DDDZ  
2 AAAAA EEE.EEEE FFF.FFFF GGGGGGG HHH.HHHH III.IIII JJ.JJJJJJJKKKKKZ  
KEY: A-CATALOGNUM B-EPOCHTIME C-DECAY D-ELSETNUM E-INCLINATION F-RAAN  
G-ECCENTRICITY H-ARGPERIGEE I-MNANOM J-MNMOTION K-ORBITNUM Z-CHECKSUM

AO-10

1 14129U 83058 B 94093.93015575 -.00000105 10000-3 0 2736  
2 14129 27.1781 334.0078 6020533 167.5108 219.1680 2.05877978 53285

RS-10/11

1 18129U 87054 A 94096.18122248 0.00000067 57349-4 0 8871  
2 18129 82.9274 22.0643 0010248 220.6223 139.4177 13.72334834340034

UO-11

1 14781U 84021 B 94096.58268703 0.00000327 63285-4 0 6797  
2 14781 97.7904 114.6531 0012422 134.3680 225.8545 14.69185628539790

RS-12/13

1 21089U 91007 A 94095.92841184 0.00000034 20820-4 0 6776  
2 21089 82.9188 65.0333 0028619 312.8771 46.9979 13.74038159158721

AO-13

1 19216U 88051 B 94091.48205291 -.00000461 10000-4 0 8989  
2 19216 57.8647 260.1651 7210810 338.2200 2.3008 2.09726624 12909

UO-14

1 20437U 90005 B 94094.18864115 0.00000063 41497-4 0 9784  
2 20437 98.5904 179.9647 0011994 50.9587 309.2663 14.29834719219014

AO-16

1 20439U 90005 D 94097.74580217 0.00000060 40418-4 0 7797  
2 20439 98.5999 184.6333 0012204 41.3499 318.8593 14.29890088219532

DO-17

1 20440U 90005 E 94097.77696937 0.00000086 50060-4 0 7780  
2 20440 98.5998 184.9635 0012408 40.0785 320.1309 14.30029345219556

WO-18

1 20441U 90005 F 94094.25256090 0.00000049 35972-4 0 7798  
2 20441 98.6007 181.4888 0013013 50.7174 309.5160 14.30003284219059

LO-19

1 20442U 90005 G 94098.22368723 0.00000052 36965-4 0 7783  
 2 20442 98.6013 185.6514 0013284 38.8862 321.3288 14.30099046219638  
 FO-20  
 1 20480U 90013 C 94097.96669648 -.00000006 52518-4 0 6741  
 2 20480 99.0290 263.0912 0541461 138.5003 225.8553 12.83224980195126  
 AO-21  
 1 21087U 91006 A 94096.76922921 0.00000093 82657-4 0 4516  
 2 21087 82.9460 195.5516 0033925 284.0542 75.6843 13.74537051159776  
 UO-22  
 1 21575U 91050 B 94096.62196308 0.00000104 49862-4 0 4800  
 2 21575 98.4392 172.5493 0008170 138.1574 222.0255 14.36905377142801  
 KO-23  
 1 22077U 92052 B 94097.95284885 -.00000037 10000-3 0 3756  
 2 22077 66.0823 67.0326 0012336 304.5695 55.4171 12.86285521 77755  
 KO-25  
 1 22830U 93061 H 94098.16232175 0.00000083 50860-4 0 2795  
 2 22830 98.5601 172.6843 0012451 25.4816 334.6987 14.28045473 27700  
 IO-26  
 1 22826U 93061 D 94094.70192756 0.00000052 38697-4 0 2752  
 2 22826 98.6593 171.2616 0010140 64.2606 295.9612 14.27719595 27201  
 AO-27  
 1 22825U 93061 C 94095.20620110 0.00000048 37491-4 0 2753  
 2 22825 98.6598 171.7361 0009638 62.0236 298.1903 14.27616610 27271  
 PoSat  
 1 22829U 93061 G 94098.23630497 0.00000067 44725-4 0 2694  
 2 22829 98.6552 174.7792 0011042 43.2925 316.9112 14.28016869 27715  
 STS-59  
 1 00059U 94099.70641906 .00221188 00000-0 11303-3 0 93  
 2 00059 57.0053 262.7355 0009259 269.9963 90.0094 16.19806752 57  
 Mir  
 1 16609U 86017 A 94096.79131291 0.00006403 88312-4 0 5584  
 2 16609 51.6471 184.1054 0015736 115.6169 244.6451 15.58521118464908

Keplerian bulletins are transmitted twice weekly from W1AW.  
 The next scheduled transmission of these data will be Tuesday,  
 April 12, 1994, at 2230z on Baudot and AMTOR.  
 NNNN  
 /EX

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 End of Ham-Space Digest V94 #91  
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